In the claims:

Cancel Claims 1-13 and 18-37.

14. (Currently Amended) A method for synthesizing carboxymethylated aspartate agarose chelating resin, said method comprising:

(a) forming oxirane-agarose;

(b) conjugating aspartic acid to **said** oxirane-agarose **to produce aspartate agarose;**

(c) carboxymethylating said aspartate agarose to produce carboxymethylated aspartate agarose; and

(~~c~~ **d**) **complexing said carboxymethylated aspartate agarose with a metal ion other than Ca^{2+}** ~~washing said aspartic acid-oxirane-agarose conjugate to remove extraneously bound metals using a high ionic strength solution~~.

15. (Original) The method, according to claim 14, wherein said conditions for oxirane-agarose formation comprise carrying out the formation at about room temperature, overnight, adjusting to about pH 7.0.

16. (Currently Amended) The method, according to claim 14, wherein said ~~temperature control conditions for~~ conjugating aspartic acid to said oxirane-agarose comprise**s** ~~mixing at less than about 25 °C,~~ reacting **said oxirane-agarose and said aspartic acid** at about 80°C for 4 hours~~, then cooling to room temperature overnight~~.

17. (Currently Amended) The method, according to claim 14, wherein said **method further comprises washing said aspartate-agarose to remove extraneously bound metals** ~~washing step (c) comprises use of a solution of at least 7.5% sodium hydroxide~~.

Please enter the following new claims:

38. (New) The method according to claim 14, wherein said metal ion is a transition metal ion.

39. (New) The method according to claim 14, wherein said transition metal ion is a third-block transition metal ion.

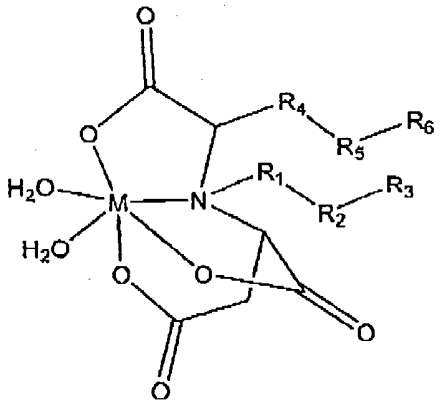
40. (New) The method according to claim 39, wherein said transition metal ion is selected from the group consisting of Fe^{2+}, Co^{2+}, Ni^{2+}, Cu^{2+} and Zn^{2+}.

41. (New) The method according to claim 40, wherein said transition metal ion is Co^{2+}.

42. (New) The method according to claim 38, wherein said transition metal is complexed to said carboxymethylated aspartate agarose in an octahedral geometry.

43. (New) The method according to claim 38, wherein said complex offers two available valencies.

44. (New) The method according to claim 14, wherein said carboxymethylated aspartate agarose chelating resin is described by the formula:



wherein R_4-R_5-R_6 = H;

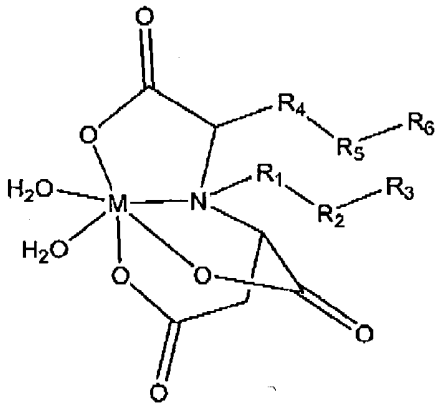
M = transition metal ion in a 2+ oxidation state with a coordination number of 6;

R_1 = a linking arm connecting the nitrogen atom of CM-Asp with R_2;

R_2 = a functional linking group through which CM-Asp linking arm R_1 is connected to R_3; and

R_3 = an agarose matrix.

44. (New) The method according to Claim 14, wherein said carboxymethylated aspartate agarose chelating resin is described by the formula:



wherein R_1-R_2-R_3 = H;

M = transition metal ion in a 2+ oxidation state with a coordination number of 6;

R_4 = a linking arm connecting the methylene carbon atom of the carboxymethyl group of CM-Asp with R_5;

R_5 = a functional linking group through which CM-Asp linking arm R_4 is connected to R_6; and

R_6 = an agarose matrix.

45. (New) A method for synthesizing a chelating matrix, said method comprising:

(a) reacting an ω-monoprotected α,ω -diamino acid with maleic acid to form a Michael addition product;

(b) deprotecting the ω-amino functional group of the Michael addition product;

(c) attaching the Michael addition product to a polymer matrix to produce said chelating matrix.

46. (New) The method according to claim 45, wherein the protecting group on said protected amino group is a benzyloxycarbonyl group.

47. (New) The method according to claim 45, wherein said polymer matrix is a matrix suitable for use in affinity or gel chromatography.

48. (New) The method according to claim 45, wherein said polymer matrix is selected from the group consisting of agarose, cross-linked agarose, polystyrene, SEPHAROSE, and nylon.

49. (New) The method according to claim 45, wherein said ω-monoprotected α,ω - diamino acid is N_6-Carbobenzoyloxy-L-lysine.

50. (New) The method according to claim 45, wherein said method further comprises complexing said chelating matrix with a metal ion other than Ca^{2+}.

51. (New) The method according to claim 50, wherein said metal ion is a transition metal ion.

52. (New) The method according to claim 51, wherein said transition metal ion is a third-block transition metal ion.

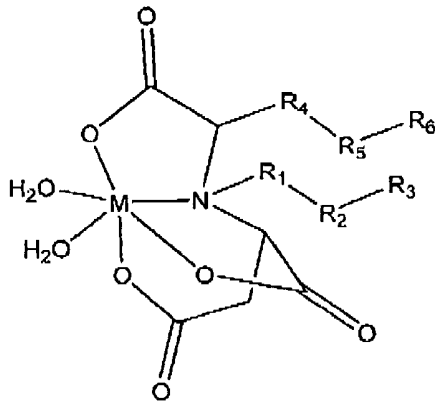
52. (New) The method according to claim 52, wherein said transition metal ion is selected from the group consisting of Fe^{2+}, Co^{2+}, Ni^{2+}, Cu^{2+} and Zn^{2+}.

53. (New) The method according to claim 52, wherein said transition metal ion is Co^{2+}.

54. (New) The method according to claim 51, wherein said transition metal is complexed to said carboxymethylated aspartate agarose in an octahedral geometry.

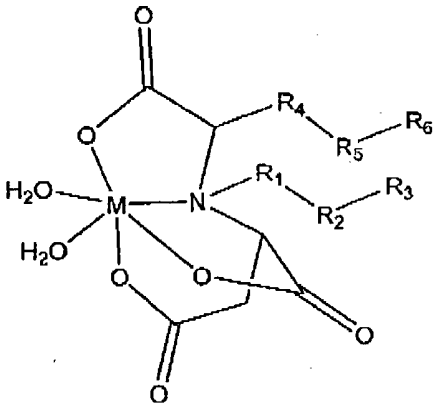
55. (New) The method according to claim 51, wherein said complex offers two available valencies.

56. (New) The method according to claim 50, wherein said chelating matrix loaded with a metal ion is described by the formula:



wherein R_4-R_5-R_6 = H;
M = transition metal ion in a 2+ oxidation state with a coordination number of 6;
R_1 = a linking arm connecting the nitrogen atom of CM-Asp with R_2;
R_2 = a functional linking group through which CM-Asp linking arm R_1 is connected to R_3; and
R_3 = a polymer matrix.

57. (New) The method according to Claim 50, wherein said chelating matrix loaded with a metal ion is described by the formula:



wherein R_1-R_2-R_3 = H;

M = transition metal ion in a 2+ oxidation state with a coordination number of 6;

R_4 = a linking arm connecting the methylene carbon atom of the carboxymethyl group of CM-Asp with R_5;

R_5 = a functional linking group through which CM-Asp linking arm R_4 is connected to R_6; and

R_6 = a polymer matrix.